

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY



(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 11 APR 2006

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Applicant's or agent's file reference RSJ08714WO		<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/US2005/007256		International filing date (day/month/year) 03.03.2005	Priority date (day/month/year) 03.03.2004	
International Patent Classification (IPC) or national classification and IPC INV. G07D9/06 G07D9/00				
Applicant DE LA RUE CASH SYSTEMS INC.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 8 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  25.08.2005		Date of completion of this report  12.04.2006		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized officer  Espuela, V  Telephone No. +31 70 340-3272 		

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/US2005/007256

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-13, 15	as originally filed
14	received on 25.08.2005 with letter of 24.08.2005

**Claims, Numbers**

1-43	received on 25.08.2005 with letter of 24.08.2005
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**Drawings, Sheets**

1/21-21/21	as originally filed
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- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-43
	No: Claims	
Inventive step (IS)	Yes: Claims	1-43
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-43
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following document:

D1: US-A-1 024 057 (ALFRED C. O. BOCK) 23 April 1912 (1912-04-23)

2. The document D1 is regarded as being the closest prior art to the subject-matter of claims 1 and 20, and shows a coin counting and wrapping machine (figures 1, 4) having a hopper (figure 1, 13) where the coins to be wrapped are deposited, these coins being loaded in a plurality of carton-holders (figure 1, 67) wherein the carton rolls (figure 4, 68) receiving the coins are held. The carton-holder is rotatable, and has a discharge position (figure 1, 76) where the carton rolls already loaded with coins are discharged.

The subject-matter of claim 20 differs from this known coin counting and wrapper device in that the device is used for filling a coin magazine that is to be used in a coin dispenser, this magazine being removable, not permanently assembled in the device as the plurality of carton-holders are in the wrapper device of D1.

The device disclosed in D1 dispenses rolls of coin while the function of the device claimed in claim 20 is to load a coin magazine with coins, and later using that coin magazine already filled with coins in a coin dispenser. Therefore, it is needed that the coin magazine be detachable from the device, and attachable to the coin dispenser dispensing the coins loaded in the coin magazine. To make the device detachable, there is a support that supports the coin magazine while it is moved from a first inserting position to a second position, already in the device, for filling the magazine.

Therefore, the device claimed in claim 20 solves the problem of making more efficient and faster the process of fully loading a coin magazine, and it allows a fast transfer of the coin magazine already filled from the coin filler to the coin dispenser.

Claim 1 claims the corresponding method to the apparatus claimed in claim 20.

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(SEPARATE SHEET)**

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Therefore, the subject-matter of claims 1, 20 is new (Article 33(2) PCT) and inventive (Article 33(3) PCT).

- 2.1 Claims 2-19 are dependent on claim 1 and claims 21-43 on claim 20 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Therefore, the subject-matter of claims 2-19, 21-43 is also new (Article 33(2) PCT) and inventive (Article 33(3) PCT).

As seen in Figs. 14 and 15, the disc 150 can be powered through a hand crank 166 or through a motor 160. The motor 160 has a shaft 161 which would be connected through a drive belt (not shown) to a shaft on the disc 150. Electric power would be supplied to the motor 160 through leads 162. The unit could be provided with a battery as a source of power.

Fig. 16 shows how the coin feeding mechanism 145 can be tilted upward by pivoting the upper frame structure 143 for removal or insertion of a coin magazine 120. Fig. 17 shows an empty coin filling apparatus 140 in which the coin feeding mechanism is pivotably mounted for the coin feeder is pivoting upward to allow easy clearance of the coin magazine as it is moved to the coin filling position.

Fig. 18 shows the coin filling apparatus of Figs. 14-17 applied to a straight line coin magazine. A linear feed mechanism 173 of a type generally known in the art can be provided for sliding the magazine by the coin exit chute 147, 148 to fill succeeding coin channels 171.

As seen in Fig. 21, a cover 129 is available for covering the magazine 120 to assist the loading of coins therein or for transport. One object of the present invention is to obviate the need of such a cover 129 when filling the magazines 120 with coins. Once the coins are loaded, it is possible to place the cover 129 over the magazine and transport it by gripping a handle 128 seen in Fig. 16. It is also typical to use a cover 172 with the inline coin magazine 170, but this would not be necessary when loading coins with the filling apparatus of the present invention.

Fig. 22 shows an alternative to the feeding mechanism 145 in which a plate 190 with four scallop cut-out portions 191 would be used to pick up coins dumped into the hopper defined by the side wall 154 and convey them one at a time to the coin exit 156. The scallop cut-out portions 191 can be sized to pick up multiple coins or only one coin each. The pickup plate 191 would be mounted on a drive hub comparable to hub 152, to be driven by the mechanical power output shaft.

## CLAIMS

1. A method for filling a coin magazine to be used in an apparatus for dispensing coins, the coin magazine having a plurality of channels for receiving coins of a plurality of denominations, the method comprising:

placing a coin magazine on a movable support;

moving the coin magazine from a first position for inserting the coin magazine into a filling apparatus to a second position, in the filling apparatus, for receiving coins in the coin magazine, the coin magazine having one channel positioned at a coin filling location when the coin magazine is in the second position;

placing a first batch of coins of a first denomination on a coin feeder positioned above the coin magazine in the second position;

feeding coins towards a coin exit, said coin exit communicating with the one channel of the coin magazine positioned at the coin filling location;

controlling a direction of a flow of coins as the coins leave the exit so that the coins are directed into the first channel positioned at the coin filling location;

moving a second channel of the coin magazine into the coin filling location while the coin magazine is on the movable support; and

removing the coin magazine from the filling apparatus with a plurality of filled channels for insertion into the apparatus for dispensing coins.

2. The method of claim 1, further comprising placing a second batch of coins of a second denomination on the coin feeder, which is positioned above the coin magazine, and feeding the coins of the second denomination into the second channel.

3. The method of claim 1, wherein the feeding of coins is stopped before moving the second channel into the coin filling location and wherein the feeding of coins from the

first batch is restarted to feed coins of the first denomination into the second channel.

4. The method of claim 1, wherein when it is desired to remove the coin magazine that has been filled with coins, moving the coin magazine from the second position to the first position.

5. The method of claim 1, wherein prior to moving the coin magazine from the first position to the second position, the coin feeder is pivoted upward to allow clearance of the coin magazine as it is moved to the second position.

6. The method of claim 1, wherein prior to moving the coin magazine from the first position to the second position, the coin feeder is placed on a movable support which is then moved to move the coin magazine to the second position.

7. The method of claim 6, wherein the support is pivoted into and out of the second position below the coin filling location.

8. The method of claim 7, wherein the coin magazine is cylindrical and wherein the coin magazine is rotated on the support to move the second channel of the magazine into the coin filling location.

9. The method of claim 1, wherein the feeding is powered by hand operation.

10. The method of claim 1, wherein the feeding is powered by an electric motor.

11. The method of claim 1, wherein placing the first batch of coins of one denomination on a coin feeder includes lifting up a pivotable coin input tray where coins of one



denomination have been initially placed to move the coins onto a feeding surface.

12. The method of claim 1, wherein a direction of feeding of the coins is reversed to feed coins back into a coin input tray.

13. The method of claim 1, wherein the coin magazine has coin channels arranged in a straight line and wherein moving the second channel of the magazine into the coin filling location is a linear movement of the magazine along a straight line path.

14. The method of claim 1, wherein the coins are arranged in a single file and the single file is advanced to the coin exit.

15. The method of claim 1, wherein individual coins are separated from the first batch and then individually conveyed to the coin exit.

16. The method of claim 1, wherein the coin feeder is oriented at an acute angle of approximately fifteen degrees from horizontal along an axis from a back of the coin feeder to the coin exit which is at a front of the coin feeder.

17. The method of claim 16, further comprising moving a guard away from a closed position while moving the coin magazine from the first position to the second position for receiving coins in the coin magazine, the guard assisting in directing coins into a coin channel having an open side.

18. The method of claim 16, wherein the coin magazine is placed on the support, which is stationary and which is oriented at an acute angle of approximately eighteen degrees from horizontal along an axis from a back of the support to a front of the support.

19. The method of claim 1, wherein a chute extension is extended and wherein excess coins of the first denomination are fed in a forward direction over the coin filling location to a receptacle.

20. An apparatus for filling a coin magazine to be used in a coin dispenser, the coin magazine having channels for receiving coins of a plurality of denominations, the apparatus comprising:

a support for supporting a coin magazine as the coin magazine is moved from a first position for inserting the coin magazine into the apparatus to a second position, in the apparatus, for filling coins into the coin magazine, the coin magazine having a first channel positioned at a coin filling location when the coin magazine is in the second position;

a feeder positioned above the coin filling location for receiving a batch of coins of one denomination and for feeding coins towards a coin exit;

a guard positioned at the coin filling location for preventing coins from overshooting the coin filling location; and

wherein the coin magazine is movable on the support between the second position for receiving coins in the first channel to a third position for receiving coins in a second channel; and

wherein the coin magazine is movable back to the first position for removing the coin magazine with a plurality of filled channels from the apparatus for filling.

21. The apparatus of claim 20, wherein the coin magazine has at least a first channel and a second channel for receiving coins of a same denomination and a same size.

22. The apparatus of claim 20, wherein the coin magazine has at least a first channel and a second channel for receiving coins of different respective denominations and different respective sizes.

23. The apparatus of claim 20, wherein the coin magazine is cylindrical.

24. The apparatus of claim 20, wherein the coin magazine has coin channels arranged in a straight line.

25. The apparatus of claim 20, wherein the feeder is a disc feeder that is moved by manual power.

26. The apparatus of claim 20, wherein the feeder is a disc feeder that is powered by an electric motor.

27. The apparatus of claim 20, wherein feeder is a disc feeder that arranges the coins in a single file and then advances the single file to the coin exit.

28. The apparatus of claim 20, wherein the feeder is a disc feeder with a scalloped feeding member with pockets for individual coins that separates individual coins from a batch and conveys the coins to the coin exit.

29. The apparatus of claim 20, further comprising a pivotable coin input tray for holding coins and for lifting to move coins onto the feeder through an entry between the coin input tray and the feeder.

30. The apparatus of claim 20, wherein the feeder is a disc feeder that is rotatable in a first rotational direction to feed coins to the exit and that is rotatable in a second rotational direction to return coins through the entry from the coin input tray.

31. The apparatus of claim 20, wherein the coin channels each have an open side and wherein the guard is positioned on a pivotable flap that is closed to close the open side and to project above the coin channel to direct coins into the first coin channel.

32. The apparatus of claim 20, wherein the guard is mounted opposite the exit to deflect coins downward and to reverse direction of the coins into the first coin channel.

33. The apparatus of claim 20, wherein the coin feeder is mounted for pivoting upward to allow clearance of the coin magazine as it is moved to the second position.

34. The apparatus of claim 20, wherein the support is movable, and wherein the coin magazine is placed on the support, which is then moved to move the coin magazine to the second position.

35. The apparatus of claim 34, wherein the support is pivoted into and out of the second position below the coin filling location.

36. The apparatus of claim 35, wherein the coin magazine is cylindrical and wherein the coin magazine is rotated on the support to move the second channel of the magazine into the coin filling location.

37. The apparatus of claim 20, wherein the coin feeder is oriented at an acute angle of approximately fifteen degrees from horizontal along an axis from a back of the coin feeder to the coin exit which is at a front of the coin feeder.

38. The apparatus of claim 20, wherein the guard is part of an assembly that is pivotable between a closed position and a non-hindering position to allow clearance for the coin magazine to move from the first position to the second position; and

wherein the hub assembly has a portion that is urged against the guard assembly to move it to the non-hindering position that allows the magazine to be moved to the second position for filling.

39. The apparatus of claim 20, wherein the guard is part of an assembly that includes a spring-biased guard flap that slides along an outside of the coin magazine to move from closing a first channel to closing a second channel as the coin magazine is rotated on the support.

40. The apparatus of claim 20, wherein the support is oriented at an acute angle of approximately eighteen degrees from horizontal along an axis from a back of the support to a front of the support.

41. The apparatus of claim 20, further comprising a chute including a reference edge for guiding coins from the coin exit of the feeder to the coin filling location.

42. The apparatus of claim 41, wherein the chute is assembled with a chute extension that can be extended to feed excess coins over the coin filling location to a receptacle.

43. The apparatus of claim 20, wherein the guard has a curved profile with one portion for closing the first channel which has a diameter of different size than a diameter of the second channel and another portion for closing the second channel.